

Applicant : Takashima Mitsuru
Serial No. : 10/018,676
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Page 2

AMENDMENTS TO THE SPECIFICATION:

Please amend paragraph 1 on page 8 to read as follows:

Referring to (a) and (b) of FIG. 1, reference numeral 10 11 denotes a closed compartments cabinet having air-tightness, made of metal, rubber, plastics, wood or the like and having a variable internal volume. Reference character SP denotes a spring member for keeping an internal air gap of the closed compartment cabinet 10 11. Reference numeral 41 denotes ~~a-hose~~ an air pipe connected to the closed compartment cabinet 10 11. Reference numeral 21 denotes a non-directional microphone or pressure sensor, and 31 a lead wire for delivering a signal of the non-directional microphone or pressure sensor 21.

Please amend paragraph 2 on page 8 to read as follows:

A state of arrangement of the spring member SP is described with reference to the sectional view of (b) of FIG. 1. (b) of FIG. 1 shows a cross section taken along plane A-A' A-A of (a) of FIG. 1, and (1), (2), (3) and (4) show examples which use spring members of different structures from one another.

Please amend the paragraph bridging pages 8 and 9 to read as follows:

(1) of (b) of FIG. 1 shows an example wherein the interior of the closed compartment cabinet 10 11 is filled with the spring member SP of continuous foamed sponge having an air permeability to support the air gap in the interior of the closed compartment cabinet 10 11. In this instance, the side walls of the closed compartment cabinet 10 11 are made of a flexible material so as to be movable when the shape of the spring member SP of the foamed sponge varies.

Applicant : Takashima Mitsuru
Serial No. : 10/018,676
Filed : December 24, 2002
Page 3

Please amend paragraph 1 on page 9 to read as follows:

(2) of (b) of FIG. 1 shows an example wherein part of the interior of the closed compartment cabinet 10 11 is supported by independent foamed sponge elements SPI, SP2 and SP3 to support the air gap in the interior of the closed compartment cabinet 10 11.

Please amend paragraph 2 on page 9 to read as follows:

(3) of (b) of FIG. 1 shows an example wherein a plurality of springs SP4, SP5 and SP6 are disposed in the interior of the closed compartment cabinet 10 11 to support the air gap in the interior of the closed compartment cabinet 10 11.

Please amend paragraph 3 on page 9 to read as follows:

(4) of (b) of FIG. 1 shows an example wherein the closed compartment cabinet 10 11 itself is provided with resiliency by the shape of the surface material of the compartment cabinet to support the air gap in the interior of the closed compartment cabinet 10 11 and divide the interior of the closed compartment cabinet 10 11 into a plurality of air chambers.

Please amend paragraph 4 on page 9 to read as follows:

Reference numeral 21 denotes a non-directional microphone or pressure sensor, and 31 denotes a lead wire for signaling a signal of the non-directional microphone or pressure sensor 21. Reference 41 denotes ~~a hose~~ an air pipe connected to the closed compartment cabinet 10 11.

Please amend the paragraph bridging pages 9 and 10 to read as follows:

The non-directional microphone or pressure sensor 21 is attached to an end portion of the ~~hose~~ air pipe 41.

Applicant : Takashima Mitsuru
Serial No. : 10/018,676
Filed : December 24, 2002
Page 4

Please amend paragraph 1 on page 10 to read as follows:

Air is enclosed in the interior of the closed compartment cabinet 10 11, and the pressure of the air is transmitted to the non-directional microphone or pressure sensor 21 through the hose air pipe 41. The non-directional microphone or pressure sensor 21 converts the internal pressure of the closed compartment cabinet 10 11 into an electric signal and transmits the electric signal over the lead wire 31.

Please amend paragraph 2 on page 10 to read as follows:

The closed compartment cabinet 10 11 has a microscopic pinhole provided therein as an air leak countermeasure for minimizing the influence upon the non-directional microphone or pressure sensor 20 21 which detects and converts the air pressure into an electric signal.

Please amend the paragraph bridging pages 10 and 11 to read as follows:

Referring to FIG. 2, reference numeral 60 denotes a bed to be used by a person from whom biomedical information is to be collected. Reference numeral 50 denotes an information processing apparatus for collecting and processing biomedical information. Reference numeral 10 denotes a known closed air type sound sensor made of flexible rubber, plastic, cloth or the like. Reference numeral 30 31 denotes a lead wire for transmitting a detection signal of the closed air type sound sensor. Reference numeral 70 71 denotes a person from whom biomedical information is to be collected, and 80 a pillow to be used by the person from whom biomedical information is to be collected.

Please amend paragraph 1 of page 11 to read as follows.

Applicant : Takashima Mitsuru
Serial No. : 10/018,676
Filed : December 24, 2002
Page 5

When it is intended to collect biomedical information such as a heart rate and a respiration rate of an in-patient in a hospital or the like for remote supervision, since it is necessary to perform a measurement for a long period of time, the measurement is performed while the person 70 71 whose biomedical information is to be collected is in a state wherein the person 70 71 lies on the bed 60 using the pillow 80. In this instance, the closed air type sound sensor 10 for collecting biomedical information is placed at a position of the back on which the weight of the closed air type sound sensor 10 whose biomedical information is to be collected is applied most, and the person 70 71 whose biomedical information is to be collected assumes a state where it lies on the closed air type sound sensor 10.

Please amend the paragraph bridging pages 11 and 12 to read as follows.

Involuntary mechanical movements such as breath and pulsation of the heart of the person 70 71 whose biomedical information is to be collected and involuntary mechanical movements of unconscious movements of the body such as tossing and turning are transmitted through the air enclosed in the interior of the closed air type sound sensor 10 to the non-directional microphone or pressure sensor, by which they are converted into an electric signal.

Please amend paragraph 1 of page 12 to read as follows.

The electric signal detected by the closed cabinet air type sound sensor 10 is transmitted to the information processing apparatus 50 over the lead wire 30 31, and processing and supervision of the biomedical information are performed by the information processing apparatus 50.

Please amend paragraph 2 of page 19 to read as follows.

Applicant : Takashima Mitsuru
Serial No. : 10/018,676
Filed : December 24, 2002
Page 6

The axis of abscissa indicates the time (Sec), the axis of ordinate indicates the level (V) of the output signal. A portion of the output signal which exhibits a great variation in FIG. 6 indicates an involuntary mechanical movement BMT of unconscious body movements such as turning of the person 70 71 whose biomedical information is to be collected. Meanwhile, another portion of the output signal which exhibits a stable level and exhibits small variations indicates an involuntary mechanical movement such as breath or pulsation of the heart of the person 70 71 whose biomedical information is to be collected.

Please amend the paragraph bridging pages 23 and 24 to read as follows.

Such an electric signal of biomedical information as shown in FIG. 6 or as indicated by SI in FIG. 7 is outputted from the non-directional microphone PT. This signal indicates such involuntary mechanical movements such as the breath and the pulsation of the heart of the person 70 71 whose biomedical information is to be collected.

Please amend paragraph 1 of page 24 to read as follows.

The level detection circuit LV outputs a pulse A when the electric signal of the output of the non-directional microphone PT exceeds a predetermined level, that is, when some body movement occurs with the person 70 71 whose biomedical information is to be collected, outputs the pulse A and supplies to the timer TMI. In response to the pulse A, the timer TMI starts a measurement of the body movement time BMT.

Please amend paragraph 2 of page 24 to read as follows.

The timer TMI measures the period of time after it receives the pulse A from the level detection circuit LV until it receives a pulse B from the counter CU1, that is, the body movement time BMT of the person 70 71 whose biomedical

Applicant : Takashima Mitsuru
Serial No. : 10/018,676
Filed : December 24, 2002
Page 7

information is to be collected shown in FIG. 6, and outputs the measurement value.

Please amend the paragraph bridging pages 24 and 25 to read as follows.

High frequency components of the electric signal of the output of the non-directional microphone PT originating from body movements and so forth are removed by the low-pass filter LP, and a maximum value of the electric signal, that is, a body movement of the person 70 71 whose biomedical information is to be collected originating from the breath, is detected by the maximum value detector DTI and a pulse A is outputted from the same.

Please delete pages 31 and 32 of the disclosure.